evopipes
PART OF RADIUS GROUP

EVOTRAY

CABLE DUCT CHANNELS

Type 1 and Type 2

EVOTRAY cable duct channels Type 1 and Type 2 is ideal for laying in signal and communications lines in the ground surface or else elevated laying on railway routes and in power plants and industrial installations.

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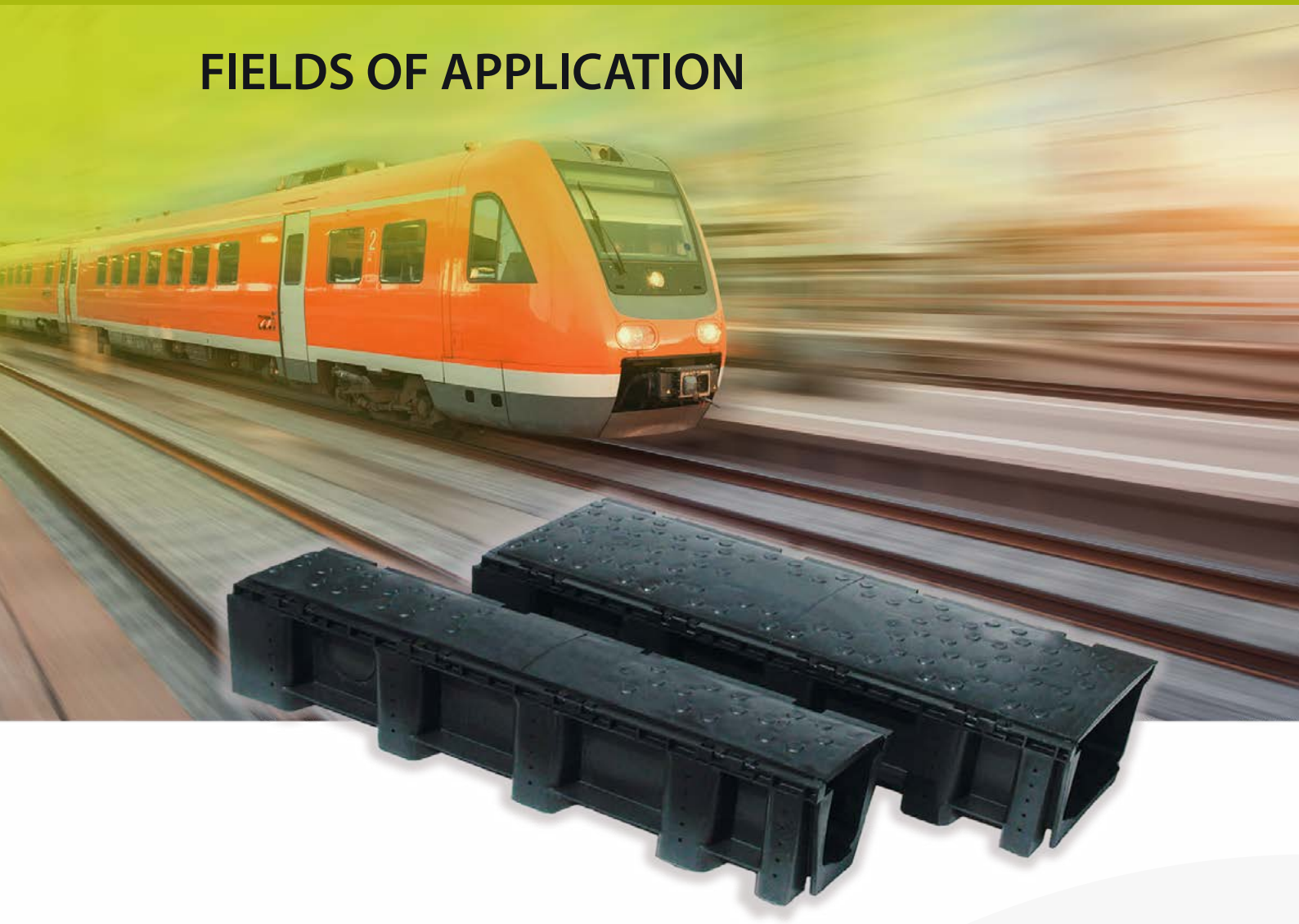
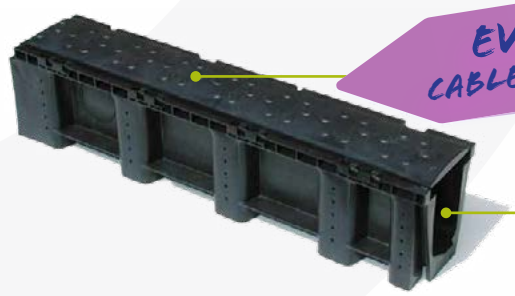


A secure power supply and data transmission imposes special demands when cable and wiring is being laid or modernised.

Cables must be fully protected. EVOTRAY cable duct has been specially developed for laying signal and communication cables along railway tracks, and at airports, power plants and industrial installations.

RANGE



COVER TYPE 1

TROUGH TYPE 1

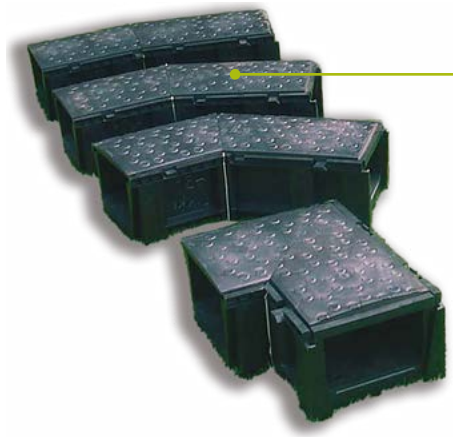
COVER TYPE 2

TROUGH TYPE 2

EARTH NAILS

COVER SECURING SCREW

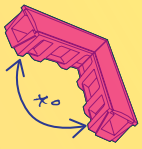
PIPE SOCKET



SPECIAL PARTS

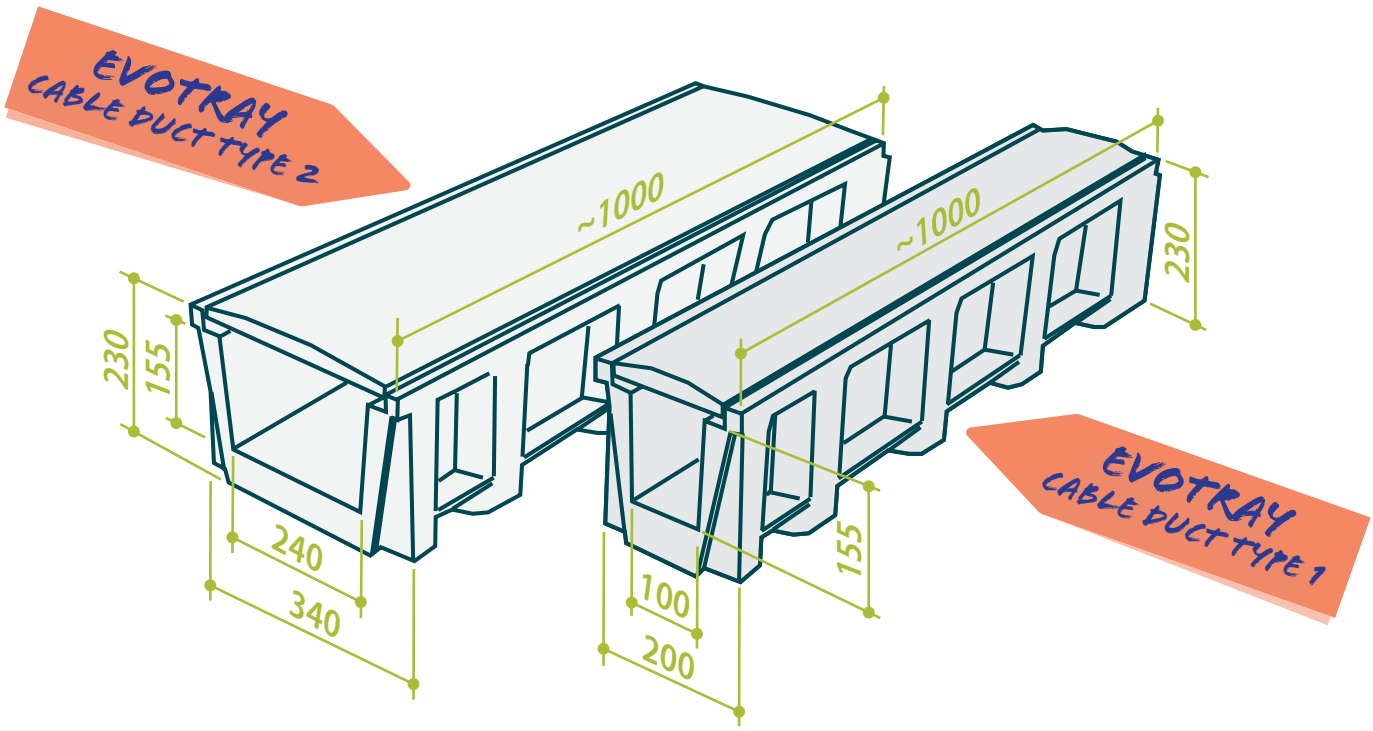
EVOTRAY CABLE DUCT

Type 1 and Type 2 special parts:
possible production range bends
* = 5°; * = 10°;
* = 15°; * = 30°;
* = 45° and 90°.



IS MADE TO ORDER

TEHNICAL DATA



TECHNICAL PARAMETRES OF EVOTRAY CABLE DUCTS

Parameters	EVOTRAY Cable duct Type 1	EVOTRAY Cable Duct Type 2
Leght:	~1000 mm	~1000 mm
Widht (int. / ext.):	100 mm / 200 mm	240 mm / 340 mm
Height (int. / ext.):	155 mm / 230 mm	155 mm / 230 mm
Weight:	~7 kg	~9 kg
Material:	Polypropylene reinforced composite material, UV stabilized	
Flammability:	Fire protection class K 1 in accordance with DIN 53438 - 2 (self - extinguishing)	
Thermal stability:	Stable in the temperature range from -30 °C to +95 °C, max. 0,5 % variation (length / width / heigth)	
Electr. characteristics:	Compliance DIN EN IEC 60243-1 (VDE 0303)	
Disruptive voltage:	49,5 kV AC/ mm	
Mechanical data:	Load capacity of ≥ 12 kN (tested with 10x10 cm stamp) - without breakage according to EN 1433	
Licensing:	*Licensing free according railway specific component control list EC, until 2010 Federal Railways Office 21AZ2/1005/1	
** - Application approval for Deutsche Bahn (renewed 2016)*		

ADVANTAGES OF THE PRODUCT

EVOTRAY cable duct is ideal for laying in signal and communications lines in the ground surface or else elevated laying on railway routes and in power plants and industrial installations. The fact that it can be laid so simply and quickly is particularly useful with short closing times or on difficult ground. Its structural design ensures that it is very stable in spite of its low weight and it provides cables and pipes with effective protection against external influences.

In order to ensure a stable supply of electricity and a continuous flow of information, especially in the case of railways, factory areas, airports and other areas, large quantities of special cables are usually used, which need to be protected from the external environment.

EVOTRAY cable ducts are ideal for this purpose. EVOTRAY cable duct channels allow you to build cable systems quickly and cost-effectively with the possibility to replenish the amount of cables in them over time, perform repairs, maintenance, replacement of damaged cables. Ideal for expanding infra-structure construction conditions. Cable ducts are used to build power, signal and communication lines along railway tracks or maintenance roads and in industrial areas to provide effective protection against external impact. Connectable cable ducts are easy to build and they provide excellent cable protection. Cable ducts are ideal for construction sites where it is planned to expand existing cable lines or perform reconstruction works. By expanding of the infrastructure, additional cables can be quickly and easily added in EVOTRAY channels.

- horizontal segments - increase weight substantially when installed;
- can be laid above ground if earth nails are used;
- cover can be installed over two troughs;
- cover can be firmly connected even when open;
- covers can be opened individually;
- cables and pipes that have been laid are easily accessible anywhere and at any time;
- cables and pipes effectively protected against external influences;
- no earthing or insulation necessary;
- easy adjustments on-site - with the help of woodworking tools the duct can be angled off as required, junctions can be attached and height differences can be overcome;
- cable duct can be laid simply and quickly, cutting down closure times for assembly;
- light weight;
- stable design;
- no jointing components;
- maintenance-free;
- EVOTRAY cable duct is reusable;
- 100% recyclable;
- highly economical.

EVOTRAY CABLE DUCT Type 1 and Type 2

ADVANTAGES:

High Load – Bearing capacity > 12 kN;
Dimensional Stability: -30 °C till +95 °C;
Weight of the product provides simple construction process;
MATERIAL: Polypropylene reinforced composite material, UV stabilized;
Fire protection class K1 in accordance with DIN 53438 – (Self – Extinguishing).

Sample application: laying in the ground surface

Sample application: elevated laying

LAYING INSTRUCTIONS

EVOTRAY CABLE DUCT
Ideal solution for construction of railway tracks!

General

The EVOTRAY cable duct has been developed as a result of many years of practical experience. Discussions with responsible site managers and with fitters - who after all are the people who carry out the installation – have shown us in what respects EVOTRAY cable duct could be improved.

Horizontal segments are attached to the side walls of the trough. When the cable duct ditches are filled in, a wedge of earth is formed so that the weight of the troughs increase many times over as soon as they have been installed. This means that the duct is better and more securely seated, even without earth nails.

The ends of the covers overlap, which prevents soiling from outside. But it is still possible to open a single cover in a formation without having to raise the adjacent covers at the same time.

Linear expansion caused by solar radiation is also taken up by the overlapping.

The covers can be placed on one trough or can overlap over two troughs.

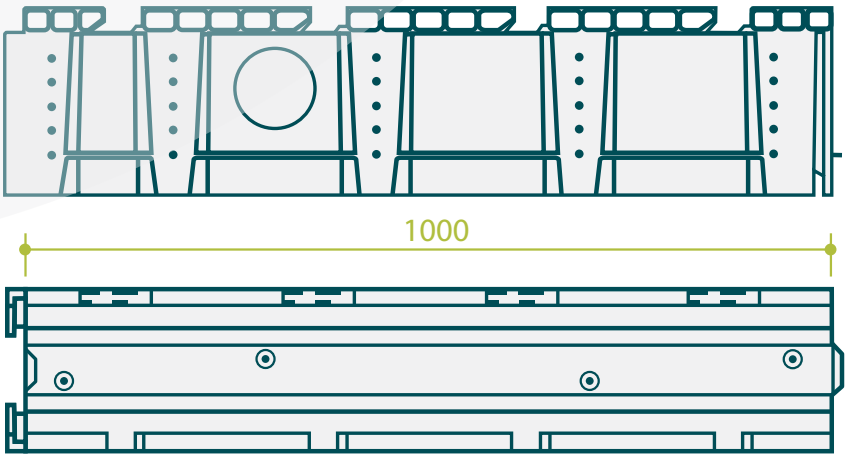
Advantage: The duct fits more tightly together.

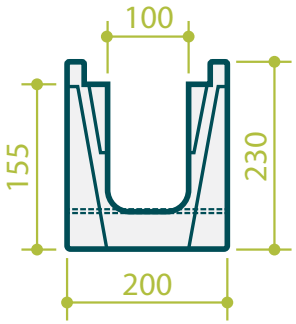
Dimensions

The EVOTRAY cable duct comes in Type 1 and Type 2.

EVOTRAY cable duct Type 1

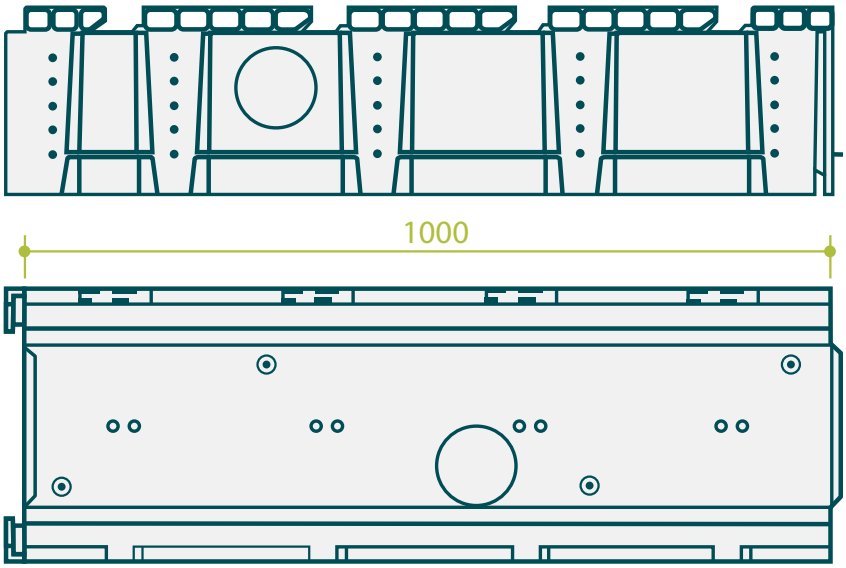
- external (lenght x width x height) : 1000 x 200 x 230 mm;
- internal (lenght x width x height) : 1000 x 100 x 155 mm.

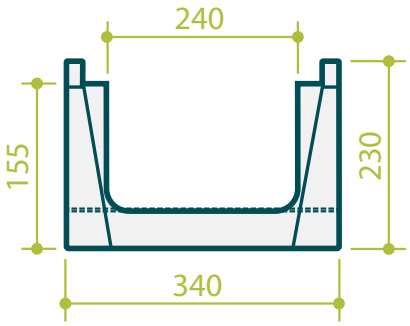




EVOTRAY cable duct Type 2

- external (lenght x width x height) : 1000 x 340 x 230 mm;
- internal (lenght x width x height) : 1000 x 240 x 155 mm.





Weight

The weight of the troughs inc. covers is approx. 7 kg for EVOTRAY cable duct Type 1 and approx. 9 kg for EVOTRAY cable duct Type 2.

Material

A polypropylene (PP) reinforced composite is used as material for the troughs and covers. Additives are also included to ensure that they are fireproof and to provide UV resistance.

Installation

The EVOTRAY cable duct is intended installation in the ground suface.

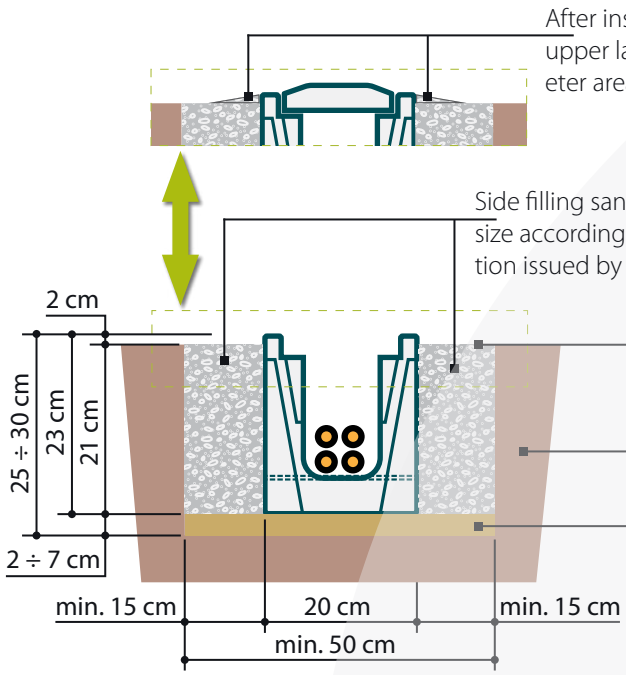
In bypaths the EVOTRAY cable duct is laid in accordance with in accordance with the technical regulations issued by the railway track manager.

The EVOTRAY cable duct must not be used as a gravel boundary. It must be laid in areas where it will be subjected to loading from traffic.

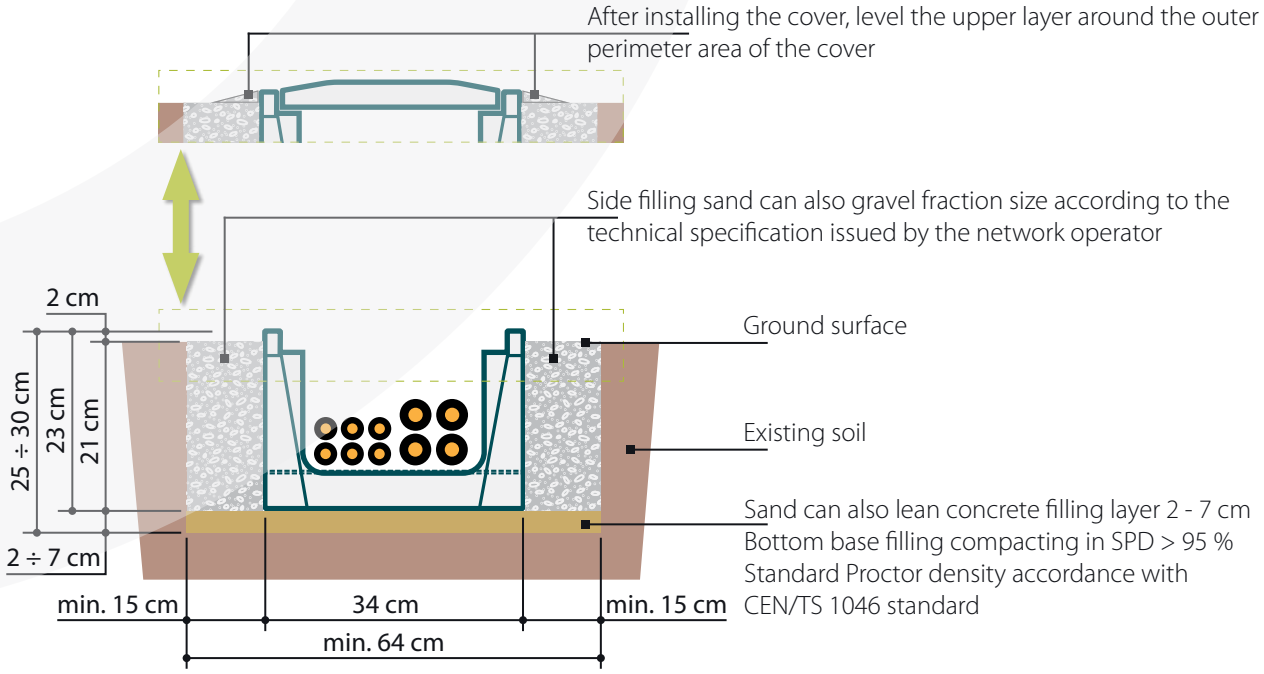
Formation work should be carried out in the cable trench and a sand layer of 2 ÷ 7 cm should be introduced if necessary to provide a clean base. Lean concrete can also be used as a base.

The trough should be filled up to a maximum of 2 cm below its top edge, to prevent gravel, stones, dirt etc. penetrating by flushing into the hinges and slots for the cover opening. The precise depth of installation depends on the client.

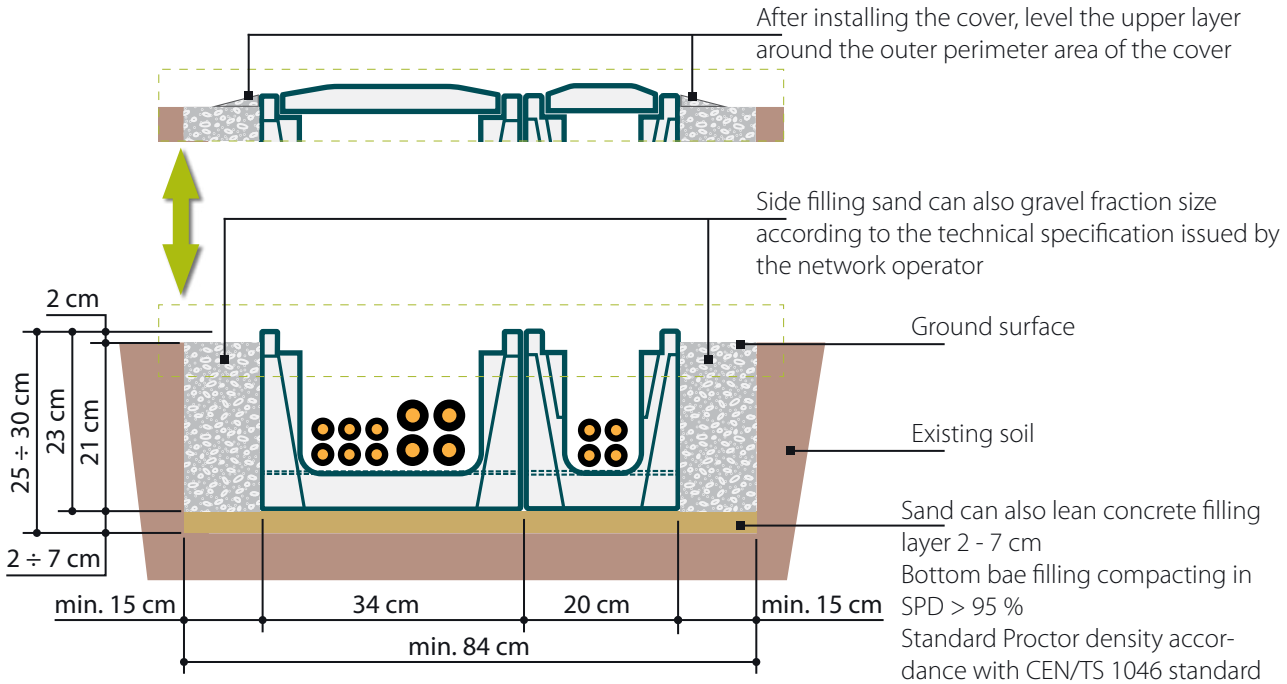
INSTALLATION EXAMPLE: EVOTRAY cable duct Type 1



INSTALLATION EXAMPLE: EVOTRAY cable duct Type 2



EXAMPLE OF PARALLEL INSTALLATION: EVOTRAY cable duct Type 1 and Type 2



Dirt that appears in the hinges and slots for opening the cover when the cable duct is being installed and the trench being filled should be cleaned by suitable means such as with a broom or a blower. This is essential to enable the cover opening to function properly.

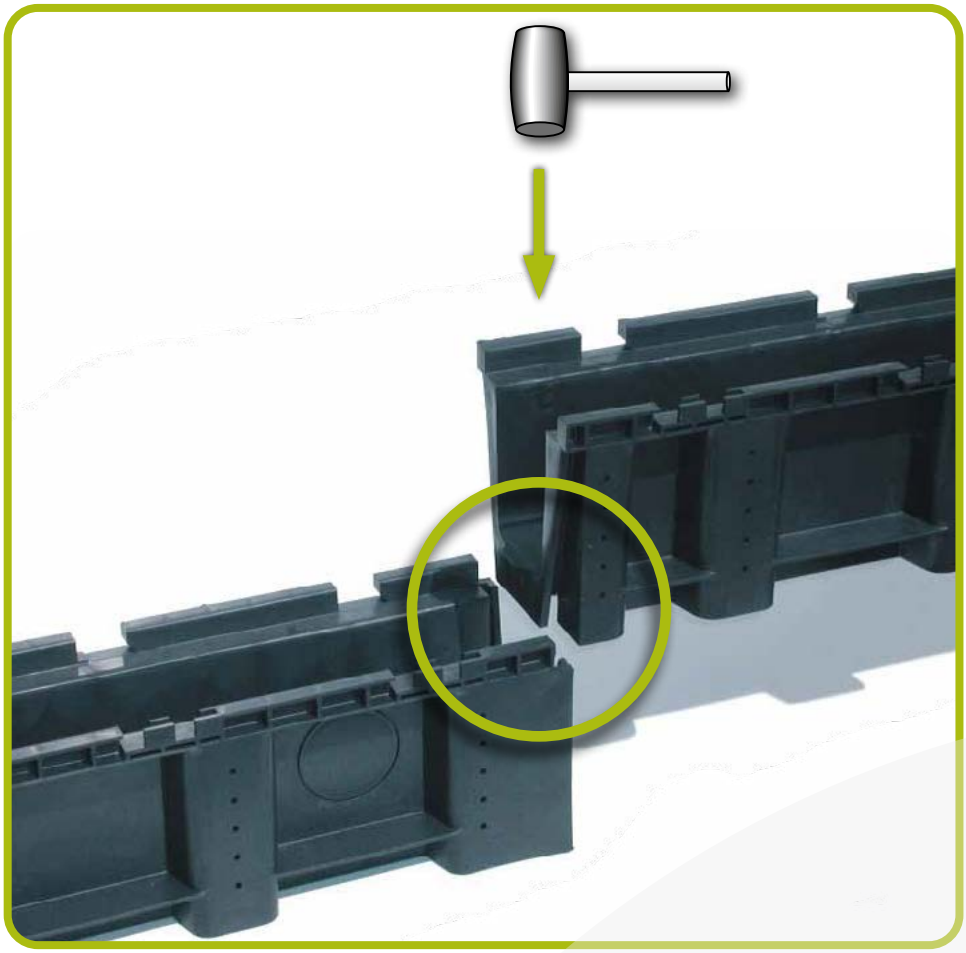
The predetermined breaking points on the sidewalls and on the base (only with EVOTRAY cable duct Type 2) can be beaten out for cable exits or entries.

If the trough is installed underground it is generally un-necessary to use earth nails. The horizontal segments on the sidewalls of the trough inhibit lifting.

Earth nails are required for fixing the cable troughs when they are used on the surface.

Laying troughs

The trough is inserted into the previous trough by pushing together the swallowtail connection. A rubber hammer can be used for joining the troughs.

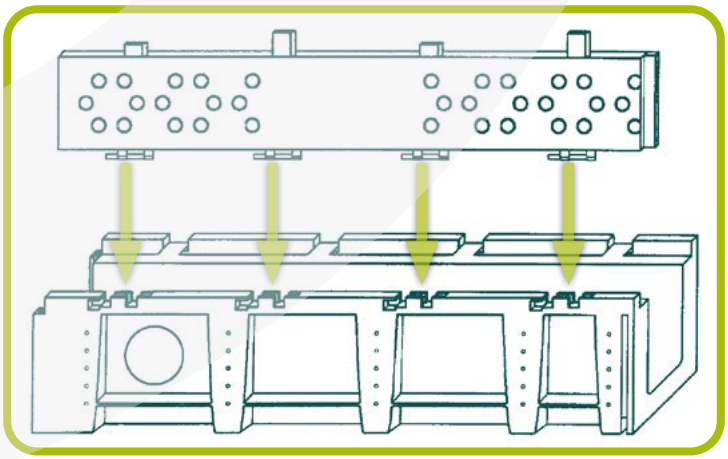


Should it be necessary to circumvent obstacles the EVOTRAY cable duct can be adjusted on-site with simple woodworking tools (such as a saw) or prefabricated angle pieces and offsets can be used.

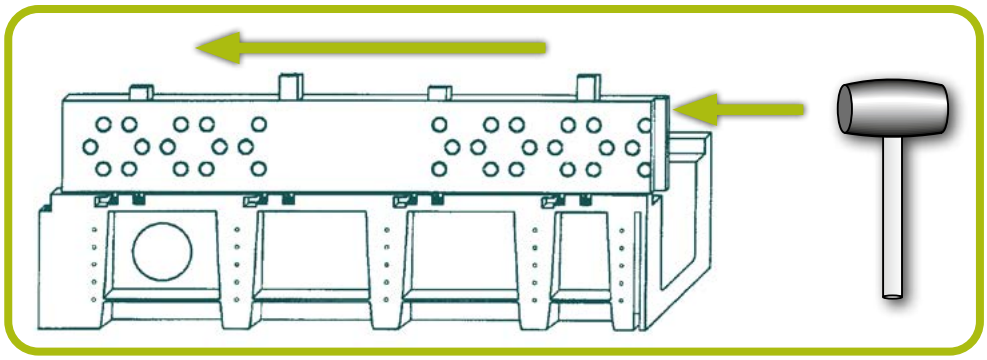
Laying covers

The cover of the EVOTRAY cable duct can be installed over one trough or can overlap two troughs. Overlapping increases the stability of the system both vertically and horizontally. Nevertheless overlapping prevents radii or special components being formed. This is only possible if the cover is only installed over one trough. Both systems can however be applied on a single stretch. A half-cover must be produced and used for this at the joints.

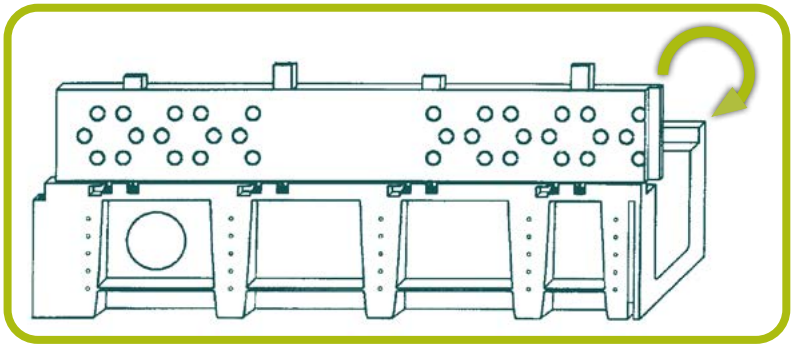
To apply the cover this should first be held vertically over the intended openings. Then it is pressed into the appropriate slots with the 4 hinges.



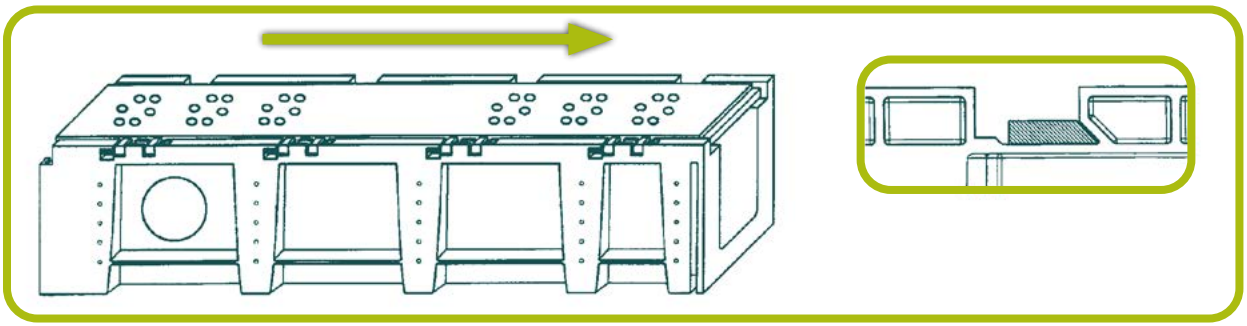
Next the cover is pushed towards the projecting pin until it stops. A rubber hammer can be used to simplify the task.



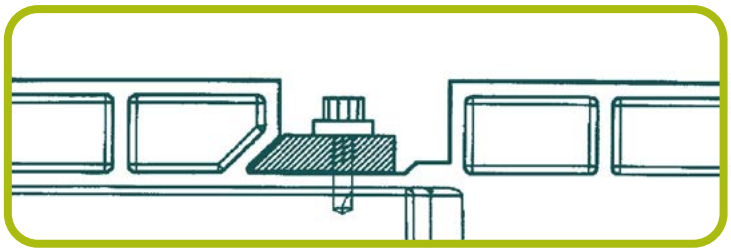
Now the cover can be closed.



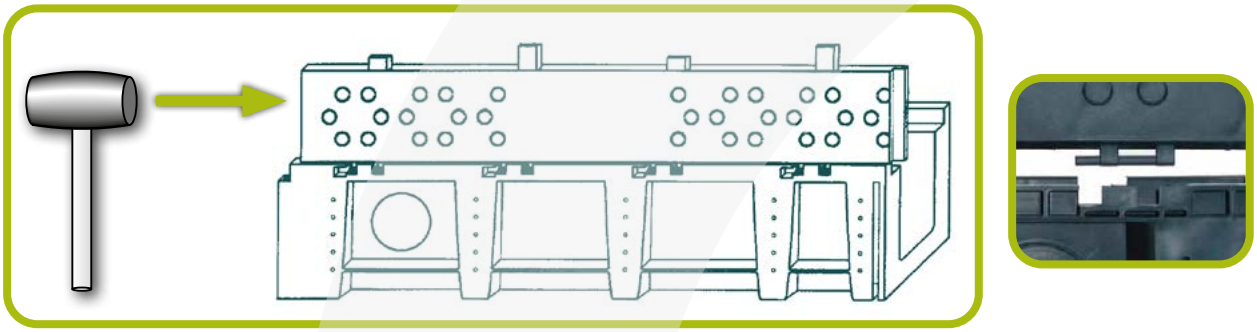
To lock it the cover is now pushed back a little until the 4 side lugs are fixed on the stop.



To secure the cover against being improperly opened it is possible to use a cover securing screw (optional) to link one or two cover lugs. This means that it is no longer possible to open the cover without auxiliary tools.

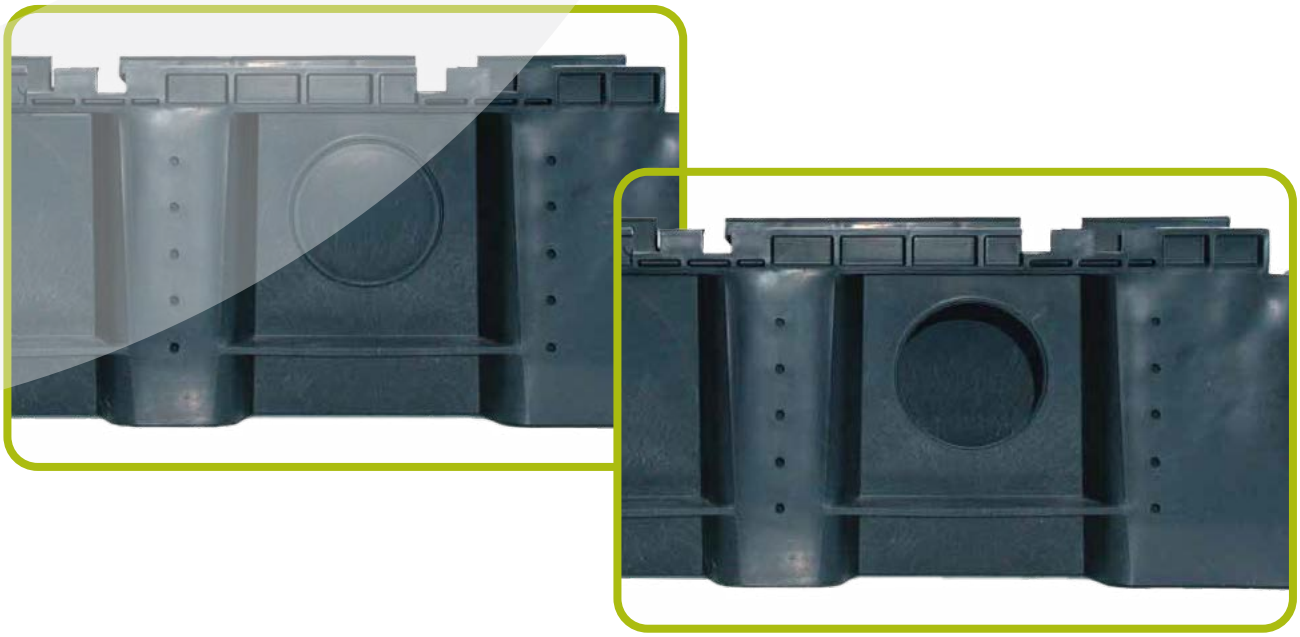


The cover should be placed vertically to separate trough and cover. It is then forced back in the direction of the open groove with the help of a rubber hammer. It is important to pushed the cover as far as the stop. Should parts of the hinges still be covered by the trough, removing the cover may cause damage. The cover can now be removed vertically upwards from the groove.

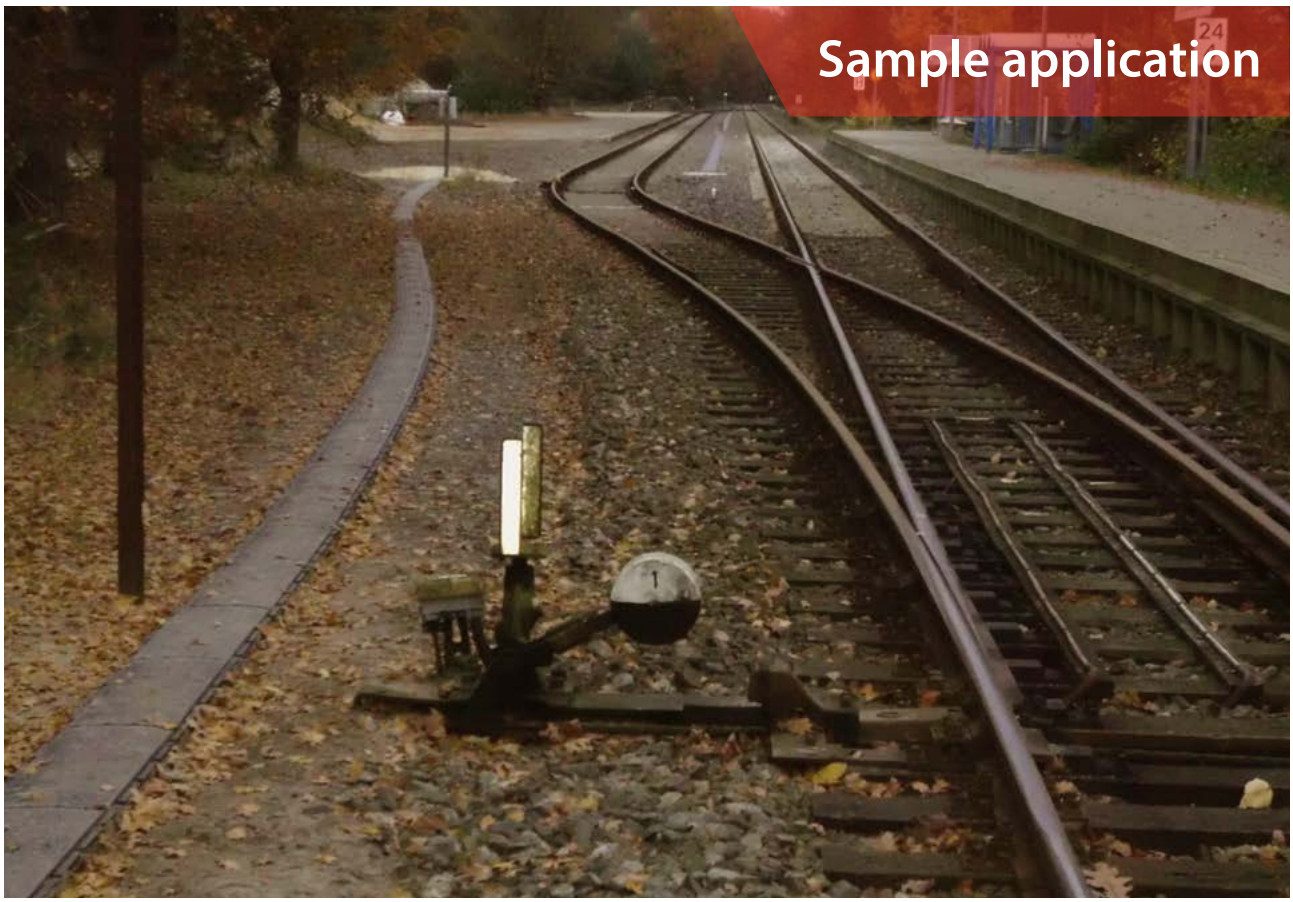


Outgoing circuits

For circuits entering or exiting laterally the sidewall of every trough has a pre-perforated opening with an exter-nal diameter of 100 mm. This can be beaten out with a hammer.



EXAMPLES

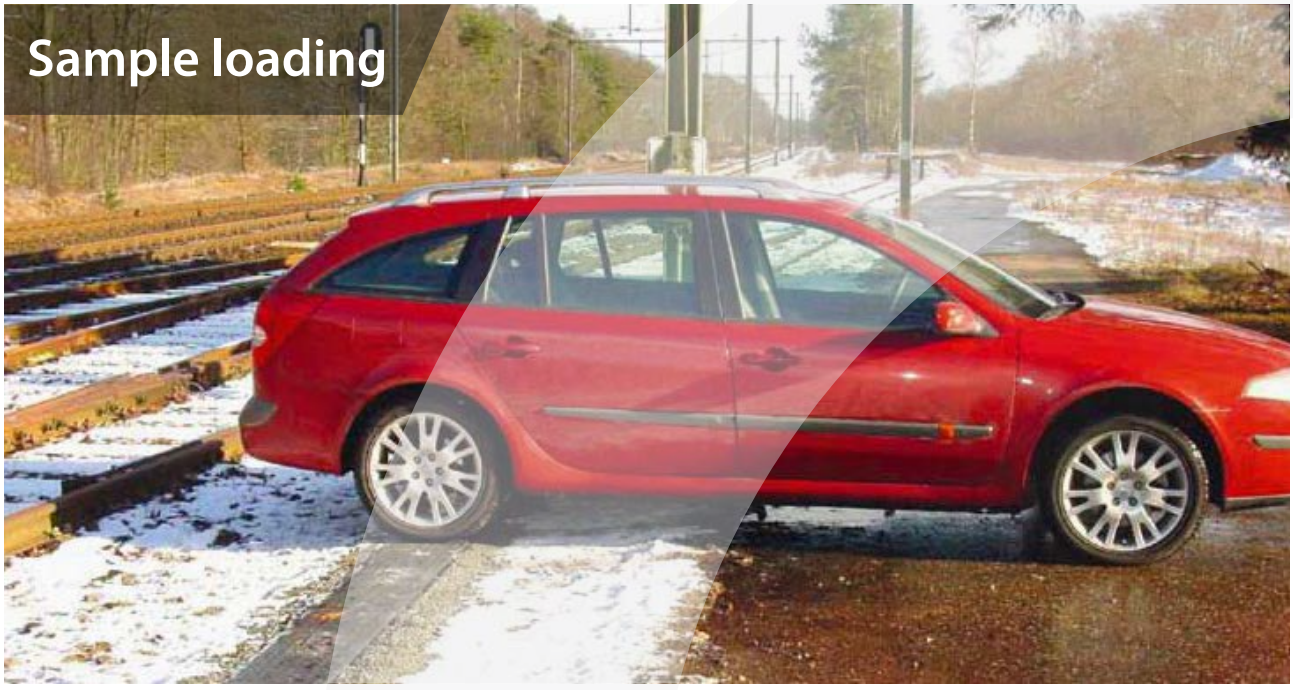

Sample application


Sample application

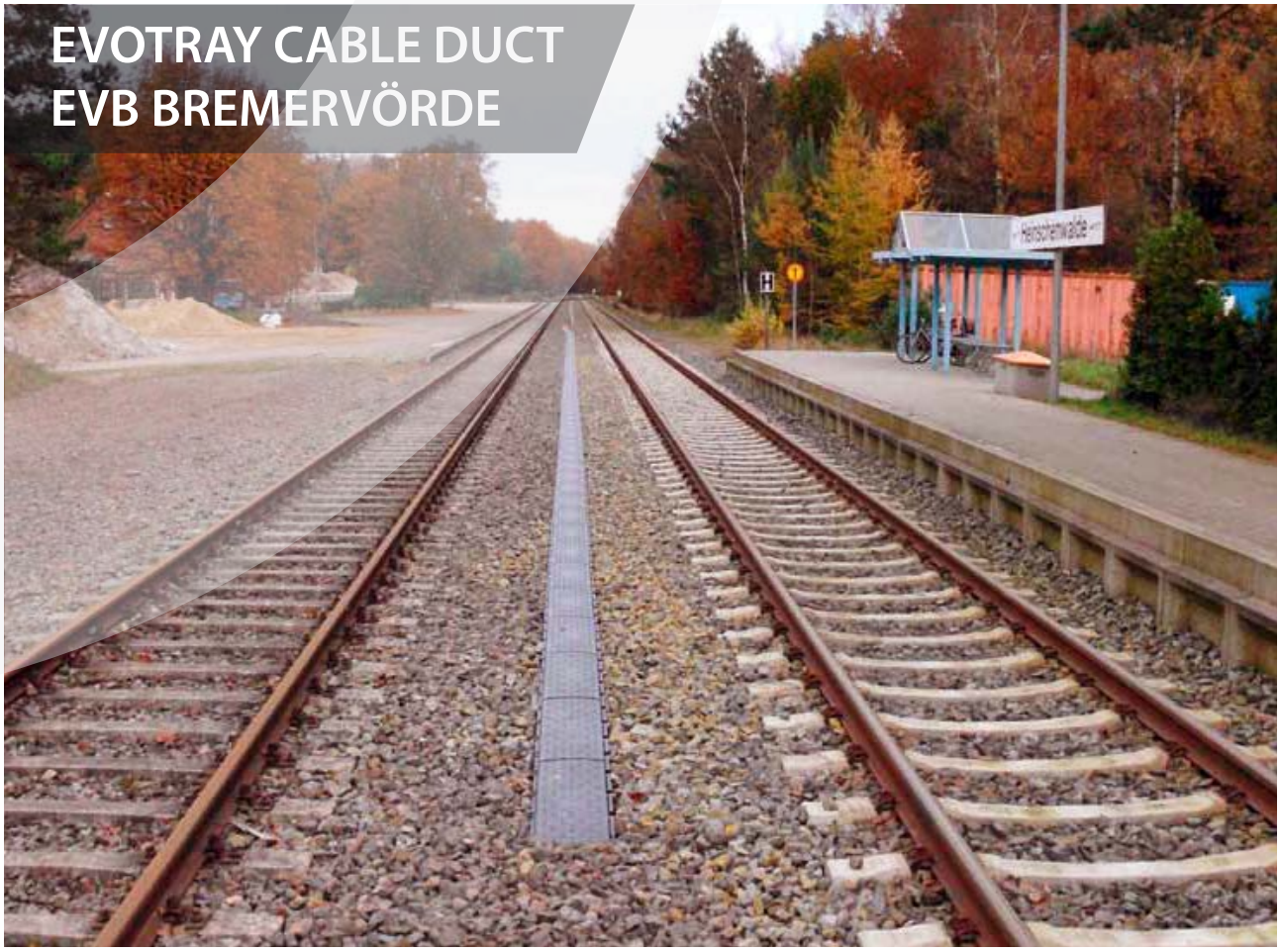
Sample application

Sample application

Sample loading

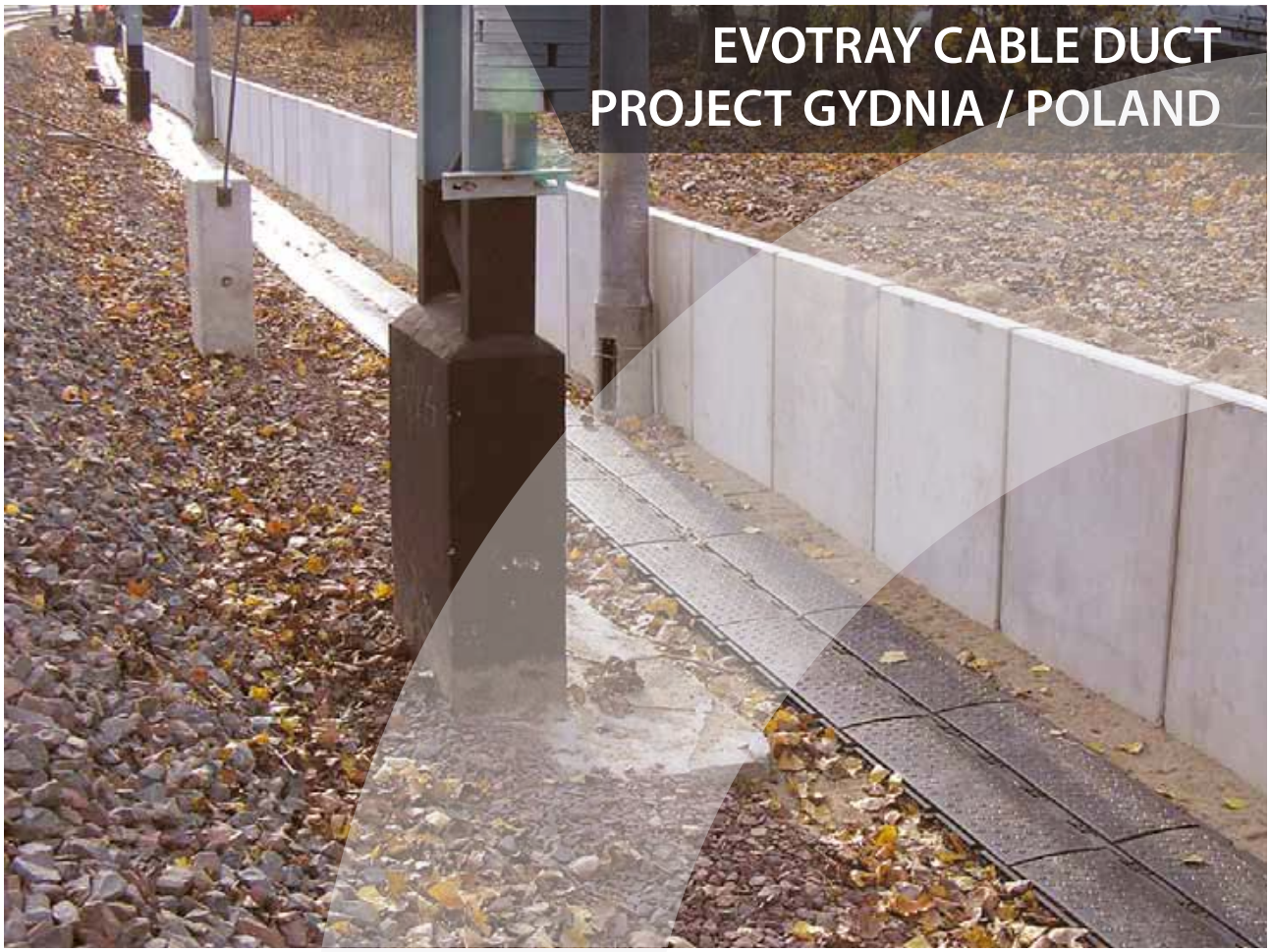


EVOTRAY CABLE DUCT
EVB BREMERVÖRDE



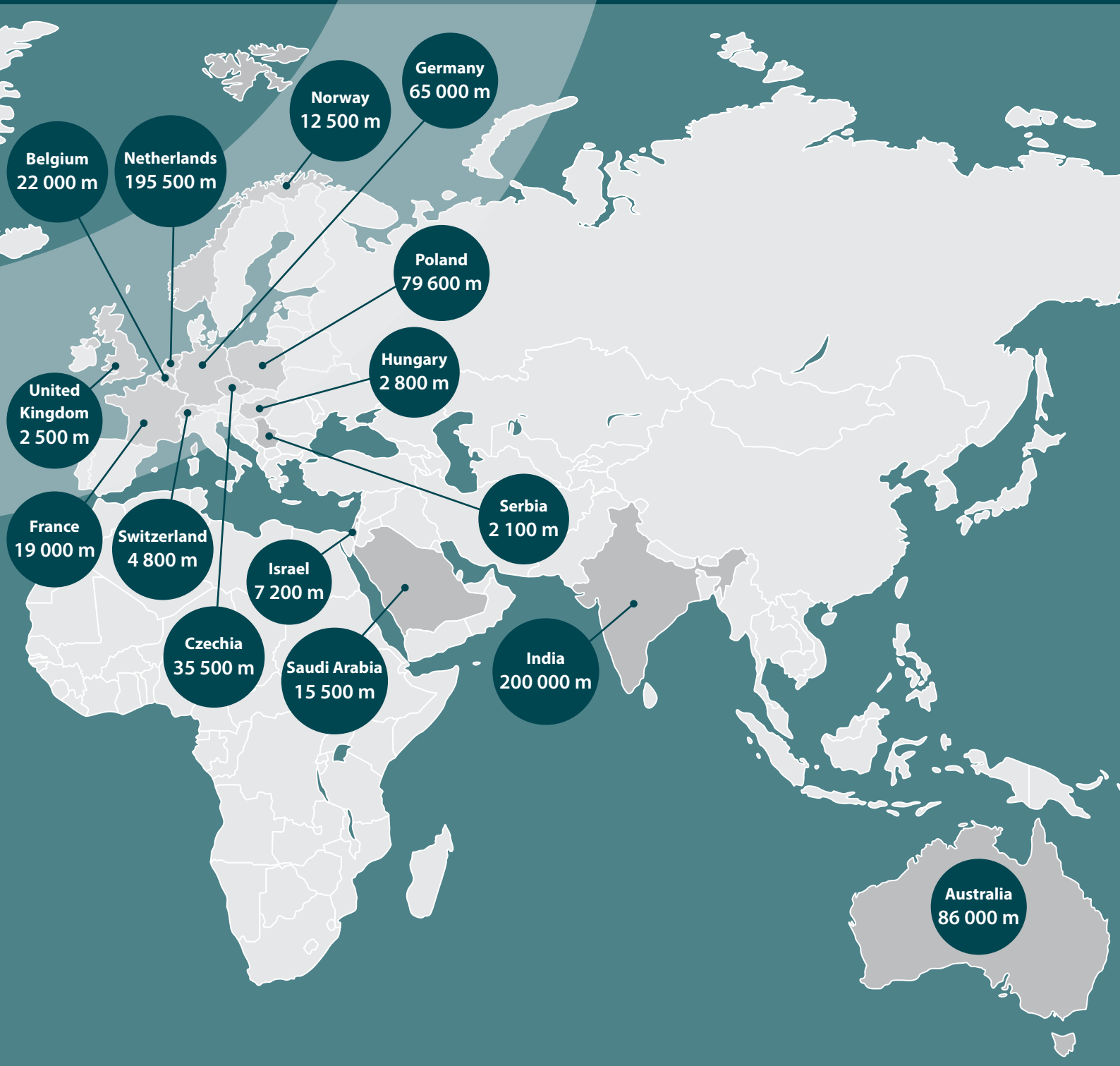
EVOTRAY CABLE DUCT
TRETTEN - LOSNA / NORWAY

EVOTRAY CABLE DUCT
PROJECT GYDNIA / POLAND



EVOTRAY CABLE DUCT
PROJECT GYDNIA / POLAND

EVOTRAY Total length installed 750 000 m



RAZOŠANA UN BIROJS

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